

Notice of Allowability

Application No.

09/917,507

Applicant(s)

CLOHESSY ET AL.

Examiner

Art Unit

Camquy Truong

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 6/29/07.
2. ☒ The allowed claim(s) is/are 1-3, 6-7, 9, 14-16, 18-19, 20-22, 24-25 now renumbered as claims 1-16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Gregory S. Bemabeo (Registration number: 44, 032), on 9/3/07 – 9/4/07.

3 The claims have been amended as follows:

1. A processor-implemented runtime resource management method for use with a portable device, said method comprising the steps of:

identifying one or more new application components scheduled to be loaded and stored on said portable device, each of said one or more new application components having a resource description list (RDL) associated therewith, said RDL identifying maximum required runtime resources that will be used when the respective application component is running;

determining maximum required runtime resources for said one or more new application components from each said associated RDL;

reserving maximum runtime resources required for running each application component stored in flashed memory of the portable device as defined by said RDL;

wherein said reserving step comprises:

allocating a segment of RAM within the portable device to each of application components stored in flash memory based on RAM requirements in said RDL associated with each of said application components, said allocated segment of RAM being for use by said application component stored in flash memory;

writing thread requirements to a thread table for each of said application component stored in flash memory based on thread requirements in said RDL associated with each said application components stored in flash memory;

writing socket requirement to a socket table for each of said application component stored in flash memory based on socket requirements in said RDL associated with each of said application component stored in flash memory; and

determining a CARSRMAX (Currently Available Runtime System Resources of the portable device assuming all already loaded application components are simultaneously using the respective MAXimum amount of runtime resources reserved for their use) of said portable device;

comparing, using said processor, said maximum required runtime resources for said one or more new application components to said CARSRMAX; and
prohibiting, using said processor, said one or more new application components from being loaded and stored on said portable device if said CARSRMAX is less than said maximum required runtime resources for running said one or more new application components.

2. The method of claim 1, wherein said step of determining said CARSRMAX comprises the steps of:

determining total runtime system resources of said portable device;
determining total maximum reserved runtime resources for application components stored in the flash memory of said portable device; and
calculating said CARSRMAX based on said total runtime system resources and said total maximum reserved runtime resources.

3. The method of claim 2, further comprising the steps of:

removing one or more of said application components stored in the flash memory of said portable device; and
releasing maximum runtime resources reserved for said one or more application components removed from the flash memory of said portable device, thereby increasing said CARSRMAX of said portable device.

4. (Cancelled)

5. (Cancelled)

6. The method of claim 1, further comprising the step of: running one or more of said application components stored in flash memory of the portable device using no more than said maximum required runtime resources reserved for each of said one or more loaded application components.

7. The method of claim 6, wherein said running step comprises the steps of:
opening said one or more application components stored in flash memory;
monitoring requests for runtime resources by each of said one or more application components stored in flash memory; and
comparing runtime resources in use plus runtime resources requested to said maximum required runtime resources reserved for each of said one or more application components stored in flash memory.

8. (Cancelled)

9. The method of claim 1, further comprising the steps of:
running one or more of said application components stored in flash memory using said allocated segments of RAM;

monitoring RAM use, thread use, and socket use by said one or more application components stored in flash memory; and

preventing each of said one or more application components from using more than said segment of RAM allocated to each of said one or more loaded application components stored in flash memory.

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. A processor-implemented system having processor for managing runtime resources in a portable device, said system comprising:

means for identifying one or more new application components scheduled to be loaded and stored on said portable device, each of said one or more new application components having a resource description list (RDL) associated therewith;

means for determining maximum required runtime resources for said one or more new application components from each said associated RDL;

means for reserving maximum runtime resources required for running each application component stored in flashed memory of the portable device as defined by said RDL;

wherein said reserving step comprises:

means for allocating a segment of RAM within the portable device to each of application components stored in flash memory based on RAM requirements in said RDL associated with each of said application components, said allocated segment of RAM being for use by said application component stored in flash memory;

means for writing thread requirements to a thread table for each of said application component stored in flash memory based on thread requirements in said RDL associated with each said application components stored in flash memory;

means for writing socket requirements to a socket table for each of said application component stored in flash memory based on socket requirements in said RDL associated with each of said application component stored in flash memory; and

means for determining a CARSRMAX (Currently Available Runtime System Resources of the portable device assuming already loaded application components are using the MAXimum amount of runtime resources reserved for their use) of said portable device;

processing means for comparing said maximum required runtime resources for said one or more new application components to said CARSRMAX; and

processing means for prohibiting said one or more new application components from being loaded and stored on said portable device if said CARSRMAX is less than said maximum required runtime resources.

15. The system of claim 14, wherein said means for determining said CARSRMAX comprises:

means for determining total runtime system resources of said portable device;

means for determining total maximum reserved runtime resources for application components stored in the flash memory of said portable device; and

means for calculating said CARSRMAX based on said total runtime system resources and said total maximum reserved runtime resources.

16. The system of claim 15, further comprising:

means for removing one or more of said application components stored in the flash memory of said portable device; and

means for releasing maximum runtime resources reserved for said one or more application components removed from the flash memory of said portable device, thereby increasing said CARSRMAX of said portable device.

17. (Cancelled)

18. The system of claim 14, further comprising:

means for running one or more of said application components stored in flash memory of the portable device using no more than said maximum required runtime resources reserved for each of said one or more loaded application components.

19. The system of claim 18, wherein said means for running comprises:

means for opening said one or more application components stored in flash memory;

means for monitoring requests for runtime resources by each of said one or more application components stored in flash memory; and

means for comparing runtime resources in use plus runtime resources requested to said maximum required runtime resources reserved for each of said one or more application components stored in flash memory.

20. A processor-implemented computer program product for managing system resources in a portable device, said computer program product comprising:

computer readable program code embodied in a computer readable medium, the computer readable program code comprising at least:

computer readable program code for identifying one or more new application components scheduled to be loaded and stored on said portable device, each of said one or more new application components having a resource description list (RDL) associated therewith;

computer readable program code for determining maximum required runtime resources for said one or more new application components from each said associated RDL;

computer readable program code for reserving maximum runtime resources required for running each application component stored in flashed memory of the portable device as defined by said RDL;

wherein said reserving step comprises:

computer readable program code for allocating a segment of RAM within the portable device to each of application components stored in flash memory based on RAM requirements in said RDL associated with each of said application components, said allocated segment of RAM being for use by said application component stored in flash memory;

computer readable program for writing thread requirements to a thread table for each of said application component stored in flash memory based on thread requirements in said RDL associated with each said application components stored in flash memory;

computer readable program code for writing socket requirements to a socket table for each of said application component stored in flash memory based on socket requirements in said RDL associated with each of said application component stored in flash memory; and

computer readable program code for determining a CARSRMAX

(Currently Available Runtime System Resources of the portable device assuming already loaded application components are using the MAXimum amount of runtime resources reserved for their use) of said portable device;

computer readable program code for comparing, using said processor, said maximum required runtime resources for said one or more new application components to said CARSRMAX; and

computer readable program code for prohibiting, using said processor, said one or more new application components from being loaded and stored on said portable device if said CARSRMAX is less than said maximum required runtime resources.

21. The product of claim 20, wherein said computer readable program code for determining said CARSRMAX comprises:

computer readable program code for determining total runtime system resources of said portable device;

computer readable program code for determining total maximum reserved runtime resources for application components stored in the flash memory of said portable device; and

computer readable program code for calculating said CARSRMAX based on said total runtime system resources and said total maximum reserved runtime resources.

22. wherein said computer readable program code embodied in a computer readable medium further comprises:

computer readable program code for removing one or more of said application components stored in the flash memory of said portable device; and

computer readable program code for releasing maximum runtime resources reserved for said one or more application components removed from the flash memory of said portable device, thereby increasing said CARSRMAX of said portable device.

23. (Cancelled)

24. The product of claim 20, wherein said computer readable program code embodied in a computer readable medium further comprises:

computer readable program code for running one or more of said application components stored in flash memory of the portable device using no

more than said maximum required runtime resources reserved for each of said one or more application components stored in flash memory.

25. The product of claim 24, wherein said computer readable program code for running comprises:

- computer readable program code for opening said one or more application components stored in flash memory;

- computer readable program code for monitoring requests for runtime resources by each of said one or more application components stored in flash memory;

- computer readable program code for comparing runtime resources in use plus runtime resources requested to said maximum required runtime resources reserved for each of said one or more application components stored in flash memory; and

- computer readable program code for preventing each of said one or more application components stored in flash memory from using more than said maximum required runtime resources reserved for each of said one or more application components stored in flash memory.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Camquy Truong whose telephone number is (571) 272 -3773. The examiner can normally be reached on 8 AM- 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Camquy Truong

September 6, 2007


MENG-AI T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100